

WHAT IS CLAIMED IS:

1. A focusing-information detecting apparatus for executing a focusing calculation according to an image signal sent from a sensor block formed of a plurality of cell units which accumulate image signal components, comprising:

a characteristic determination circuit for reading a signal from a first set of the plurality of cell units in the sensor block and for determining the characteristics of the corresponding image signal; and

a reading processing circuit for applying signal reading processing at least to other cell units not included in the first set in the sensor block when the determination result obtained by said characteristic determination circuit is a predetermined result; and for disabling signal reading processing at least for the other cell units in the sensor block when the determination result obtained by said characteristic determination circuit is another predetermined result, which is different from the predetermined result.

2. A focusing-information detecting apparatus according to Claim 1, further comprising a control circuit for controlling an operation for accumulating image signal

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3. A focusing-information detecting apparatus according to Claim 1, wherein the first set of the cell units outputs a signal indicating the luminance or the contrast received by the sensor block.

4. A focusing-information detecting apparatus according to Claim 2, wherein the first set of the cell units outputs a signal indicating the luminance or the contrast received by the sensor block.

5. A detecting apparatus for detecting a focus state or distance information according to an image signal accumulated by each of image-signal accumulation sensor blocks corresponding to a plurality of focus or distance detection areas, comprising:

a reading circuit for reading, every time an operation for accumulating image signal components is finished in a sensor block, the image signal from the sensor block where the accumulation operation has been finished;

a reading control circuit for executing, during the reading operation, a first reading processing operation for

reading the characteristic signal of the image signal in a sensor block to which the reading operation is applied, and for executing a second reading processing operation for reading the image signal from the sensor block whose characteristic signal was subject to the first reading processing operation after the first reading processing operation;

a determination circuit for evaluating the characteristic signal read in the first reading processing operation and for determining whether the second reading processing is executed; and

a circuit for detecting the focus state or distance information according to an image signal accumulated by each of image-signal accumulation sensor blocks corresponding to a plurality of focus or distance detection areas, and according to the image signal reading performed by said reading circuit.

6. A detecting apparatus according to Claim 5, wherein said determination circuit disables the second reading processing operation when the characteristic signal indicates that the image signal is inappropriate for focus or distance detection.

7. A detecting apparatus for calculating focus

detection information or distance information according to an image signal accumulated in each of image-signal accumulation sensor blocks corresponding to a plurality of focus or distance detection areas, comprising:

a first output circuit for outputting the characteristic signal of a photoelectrically converted image signal in each focus or distance detection area;

a second output circuit for outputting the photoelectrically converted image signal in each focus or distance detection area;

a first signal reading circuit for reading the characteristic signal from the first output circuit;

a second signal reading circuit for reading the image signal from the second output circuit;

a reading control circuit for comparing the level of the characteristic signal read by said first signal reading circuit with a determination level determined in advance, for controlling said second signal reading circuit to read the image signal in a focus or distance detection area where the level of the characteristic signal has a first relationship with the determination level, and for disabling reading of the image signal by the second signal reading circuit in a focus or distance detection area where the level of the characteristic signal has a second relationship with the determination level; and

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8. A detecting apparatus according to Claim 7, further comprising a determination-level changing circuit for determining whether focus or distance detection has succeeded in a focus or distance detection area among the plurality of focus or distance detection areas, and, when focus or distance detection has succeeded in a focus or distance detection area, for changing the determination level according to the level of a characteristic signal in the focus or distance detection area.

9. A detecting apparatus according to Claim 7, further comprising a level changing circuit for determining whether focus or distance detection has succeeded in a focus or distance detection area among the plurality of focus or distance detection areas; and for changing the determination level between a case in which focus or distance detection has succeeded in a focus or distance detection area and a case in which it has not succeeded.

11. A detecting apparatus according to Claim 7,  
wherein the characteristic signal of the photoelectrically  
converted image signal is a signal indicating the difference  
between the maximum value and the minimum value of the  
photoelectrically converted image signal.

a focus detecting sensor comprising:

a difference output section for outputting the difference between the maximum value and the minimum value of a photoelectrically converted image signal in each focus or distance detection area,

an image-signal output section for outputting the photoelectrically converted image signal in each focus or distance detection area, and

a signal reading section for reading signals from said difference output section and said image-signal output section;

a reading control circuit for reading the difference output from said difference output section through said signal reading section, for reading the image signal output from said image-signal output section through said signal reading section in a focus or distance detection area where the difference is greater than a predetermined value, and for disabling reading of the image signal in a focus or distance detection area where the difference is smaller than the predetermined value; and

a calculation circuit for calculating focus or distance detection information according to the read image signal.

13. A detecting apparatus according to Claim 12, further comprising a changing circuit for determining whether focus or distance detection has already succeeded in a focus or distance detection area among the plurality of focus or distance detection areas, and, when focus or distance detection has succeeded in a focus or distance detection area, for changing the predetermined value

14. A detecting apparatus according to Claim 12, further comprising a changing circuit for determining whether focus or distance detection has already succeeded in a focus or distance detection area among the plurality of focus or distance detection areas, and for changing the determination value between a case in which focus or distance detection has succeeded in a focus or distance detection area and a case in which it has not succeeded.

15. A detecting apparatus according to Claim 12, further comprising a determination circuit for determining whether focus or distance detection has already succeeded in a focus or distance detection area among the plurality of focus or distance detection areas; and, only when focus or distance detection has succeeded in a focus or distance detection area, for determining whether reading is performed with the difference being greater than the predetermined value.

16. A detecting apparatus for calculating focus or distance detection information from an image signal accumulated in each of image-signal accumulation sensor



blocks corresponding to a plurality of focus or distance detection areas, comprising:

a focus detecting sensor comprising:

a maximum-value output section for outputting the maximum value of a photoelectrically converted image signal in each focus or distance detection area,

a minimum-value output section for outputting the minimum value of the photoelectrically converted image signal in each focus or distance detection area,

an image-signal output section for outputting the photoelectrically converted image signal in each focus or distance detection area, and

a signal reading section for reading a signal from said maximum-value output section, from said minimum-value output section, and said image-signal output section;

a reading control circuit for reading the maximum value and the minimum value of the image signal through said signal reading section, for calculating the difference therebetween, for reading the image signal through said signal reading section in a focus or distance detection area where the difference is greater than a predetermined value, and for disabling reading of the image signal in a focus or distance detection area where the difference is smaller than the predetermined value; and

a calculation circuit for calculating focus or distance

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17. A focusing-information detecting apparatus having a plurality of sensor blocks each formed of a plurality of cell units which accumulate image signal components, for executing, every time an operation for accumulating image signal components is finished in a sensor block, a focusing calculation according to an image signal read from the sensor block where the accumulation operation has been finished, comprising:

a reading processing circuit for applying signal reading processing at least to the other cell units not included in the first set of cell units in the sensor block when the determination result obtained by said characteristic determination circuit is a predetermined result, and for disabling signal reading processing at least for the other cell units in the sensor block when the determination result obtained by said characteristic determination circuit is another predetermined result, which is different from the predetermined result; and

means for executing, every time an operation for

accumulating image signal components is finished in a sensor block, a focusing calculation according to an image signal read from the sensor block where the accumulation operation has been finished and in accordance with the reading and determining by said characteristic determination circuit and the reading signal processing performed by said reading processing circuit.

18. A focusing-information detecting apparatus according to Claim 17, further comprising a changing circuit for changing, when the signal reading processing is applied at least to the other cell units in the sensor block if the determination result obtained by said characteristic determination circuit is the predetermined result, the determination threshold of said characteristic determination circuit, applied to signals read from the other sensor blocks.

19. A focusing-information detecting apparatus according to Claim 17, wherein the first set of cell units output a signal indicating the luminance or the contrast received by the sensor block.